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**United States Patent** [19]

Jones et al.

[11] **Patent Number:** **6,069,443**[45] **Date of Patent:** **May 30, 2000**[54] **PASSIVE MATRIX OLED DISPLAY**[75] Inventors: **Gary W. Jones**, Lagrangeville;  
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N.Y.[21] Appl. No.: **09/042,154**[22] Filed: **Mar. 13, 1998****Related U.S. Application Data**

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[51] **Int. Cl.<sup>7</sup>** ..... **H05B 33/22**[52] **U.S. Cl.** ..... **313/504; 313/506; 313/509**[58] **Field of Search** ..... 313/499, 500,  
313/504, 506, 509, 512; 427/66; 428/917[56] **References Cited****U.S. PATENT DOCUMENTS**

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PLLC[57] **ABSTRACT**

The present invention is directed to an organic light emitting device having a substrate, and at least one conductor formed on the substrate. A first insulator layer is formed on the at least one conductor and the substrate. The insulator layer includes at least one pixel opening formed therein defining a pixel area. A second insulator layer is formed on the first insulator layer. The organic light emitting device also include an OLED layer formed on the at least one conductor in the pixel area. The organic light emitting device may further include a sealing structure formed over the OLED layer. The sealing structure includes at least one material formed over the OLED layer. The first insulator layer and the sealing structure form a protective barrier around the OLED layer. The first insulator layer includes a uniformly sloping surface surrounding the pixel area. The OLED layer preferably extends over the uniformly sloping surface. The organic light emitting may further include at least one OLED connector pad formed on the substrate. Methods of forming the pixel area and the organic light emitting devices are also disclosed.

**38 Claims, 8 Drawing Sheets**